SIPRNET Design for MCA

Premise Distribution Systems: Requirements for Controlled and Uncontrolled Access Areas

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U.S. Army Information Systems Engineering Command
Fort Detrick Engineering Directorate (ISEC FDED)

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Introduction

- SIPRNET requirements now considered as common user, in limited quantities and environments
- Standardized designs under development
- Cooperative efforts to determine numbers and methods for these design efforts
- Need to engineer within regulations and policies.

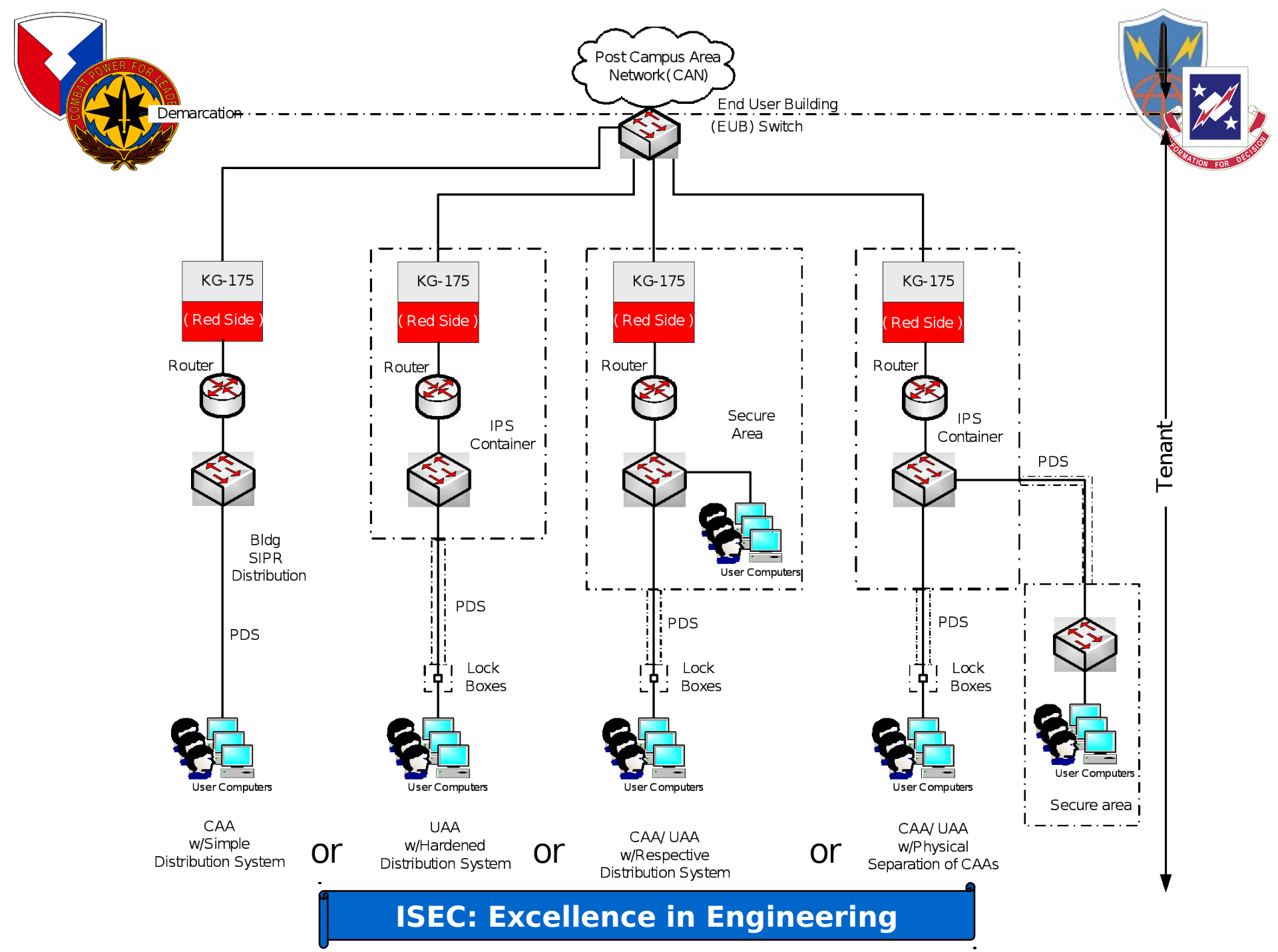
Technical Guides

- Technical Guide for the Integration of Secret Internet Protocol Router Network (SIPRNET), Version 3.2, 03 May 2006
- Technical Guide for the Installation Information Infrastructure Architecture, August 2003
- Both are available on AKO:
  - Files➔US Army Organizations➔ AMC➔ CECOM➔ CECOM ISEC FDED
  - Before clicking on CECOM ISEC FDED, please register to receive automatic notification of updates.
  - Within this folder, you will see several folders - one contains the I3A Tech Guide and one the SIPRNET Tech Guide and Cost Estimates.

Policies and Regulations

Primary Resources

- *** NSTISSI 7003, Protected Distribution Systems (PDS), 13 Dec 96
- *** NSTISSAM TEMPEST 2/95, Red/Black Installation Guide, 12 Dec 95
- *** NSTISSAM TEMPEST 2/95A, Amendment to TEMPEST 2/95, 03 Feb 00
- *** AR 380-5, Department of Army Information Security Program, 29 Sep 00
- AR 25-1, Army Information Management, 15 Jul 05
- AR 25-2, Information Assurance, 14 Nov 03
- AR 415-15, Army Military Construction and Nonappropriated-Funded Construction Program Development and Execution, 12 Jun 06



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Definition of UAA

- Uncontrolled Access Area (NSTISSI 7003):
  - The area external or internal to a facility over which no personnel access controls are or can be exercised.
  - Basically this area has no security measures in effect and SIPRNET distribution which passes through this area be protected accordingly.
  - The cable system in a UAA is referred to as “hardened” distribution and is detailed in NSTISSI 7003, Annex B, Para 4.a and subparagraphs.
  - See also Para 7.4.5.3, SIPRNET Tech Guide

Hardened Distribution

- Affords “significant physical security protection” (7003).
- This briefing will discuss one of the hardened distribution systems: hardened carrier. Others are Alarmed and Continuously Viewed.
- Carrier should be constructed of electrical metallic tubing (EMT), ferrous conduit or pipe, or rigid steel ducting, utilizing elbows, couplings, nipples, and connectors of the same material (7003).
- All connections should be permanently sealed completely around all surfaces (7003).
- Pull boxes must be sealed around the mating surface or must not have removable hinge pins and must be secured with a GSA-approved changeable combination lock (7003).
- Visual inspection for secret classification: once per day for UAA in low threat environment (Table B-2.a, 7003)
- Random technical inspection for secret classification: once per year in low threat environment (Table B-3, 7003)

Definition of CAA

- Controlled Access Area (NSTISSI 7003):
  - The complete building or facility area under direct physical control within which unauthorized persons are denied unrestricted access and are either escorted by authorized personnel or are under continuous physical or electronic surveillance.
  - The CAA may be identified as Confidential, Secret, or higher. Within a CAA, a PDS is not required for classified information processed at or below the classification level of the CAA.
  - The cable system in a CAA is referred to as “simple” distribution and is detailed in NSTISSI 7003, Annex B, Para 4.b and subparagraphs.
  - Also see Para 7.4.5.1, SIPRNET Tech Guide

Simple Distribution

- Affords “reduced level of physical security protection as compared to a Hardened Distribution System” (7003).
- Carrier may be constructed of any material (wood, PVC, EMT, ferrous conduit) (7003).
- Joints and access points should be secured and controlled (7003).
- Carrier is used to ensure correct separation between red and black signals (2 inches between RED wire line and BLACK wire line, 6 inches for parallel runs over 100 feet) (2-95, Rec C).
- RED and BLACK wire lines should not use a common distribution vehicle (2-95, Rec C).
- RED and BLACK optical fiber lines may use a common distribution vehicle providing that the fibers are not mixed in a common sheath (2-95, Rec C)
- Visual inspection for secret classification: none required for CAA in low threat environment (Table B-2.a, 7003)
- Random technical inspection for secret classification: once per year in low threat environment (Table B-3, 7003)

Important People

- CTTA: Certified Tempest Technical Authority
  - According to Para 3.2 in 2-95, the CTTA must approve any SIPRNET designs – “The congnizant CTTA must be consulted in the initial planning phases for facilities that will process classified information….There should be no commitment of funds without CTTA concurrence.”
- DAA: Designated Approving Authority
  - The DAA is responsible for approving all local CANs and circuit connectivity for the site.
  - The DAA legally accepts and agrees to mitigate the risk associated with the system.
  - The DAA is personally responsible for any compromise of classified information.
- Certification and Accreditation personnel
  - All implementation must be done in accordance with regulations to ensure that IA and DISA personnel will accredit the system or addition.
- Any design should be approved (and chopped) by the CTTA and the DAA entities **before** any material is ordered or implementation begun.

Example 1: BCTC

Battle Command Training Center

- ISEC, users, and architectural engineers worked together to determine a standardized design which would meet requirements while observing all policies and regulations.
  - Addressed number of drops required, method of distribution, alternative designs (pros and cons), interpretation of policy and regulations
  - Solution was designed to eliminate surprises.
  - After informed discussion, decision was made to design for hardened distribution (budget for additional expense) to ensure portability of solution – for example, the same design may be used regardless of the classification of the facility as a CAA or UAA. Allows standard design with no drawbacks.

Example 2: Site C2 Facility

Command and Control Building

- Design of premise distribution was included in construction effort.
- Wiring was installed under the raised floor in simple cable trough.
  - Coordinated implementation between MCA (distribution and outlets), site, and PM DCASS (electronics through SIPRNET BCT effort)
  - The user wanted the building classified as a UAA.
  - This was not possible due to the installation of the cables as simple distribution vs. hardened distribution.
  - User had to make decision – make provisions for physical security (guard, escorts, etc) or install hardened carrier throughout the building, thus incurring large expense or greatly reducing number of drops.

Example 3: TEMF

Tactical Equipment Maintenance Facility

- Training representative stated a SIPRNET need
- SIPRNET to indicated locations would conflict with policies and regulations (in a pedestal outside)
- Continued discussion and research led to the determination that “SIPRNET” drops were not actually needed
  - Data was encrypted
  - Dedicated training and simulation network

Questions??

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